

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

WEINBERGER

Atty. Ref.: 3642-2

Serial No. 09/675,658

Group: 3624

Filed: September 29, 2000

Examiner: J. Patel

For: MUTUAL FUND ANALYSIS METHOD AND SYSTEM

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December 8, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER 37 C.F.R. §1.132

I, Alan L. Weinberger, do hereby declare and state:

1. I am the sole inventor of the subject matter described and claimed in the above-noted U.S. patent application.
2. I received a Bachelor's Degree from Georgia Tech in Aeronautical Engineering in 1959, and I received a Master of Science Degree from the Massachusetts Institute of Technology in Aeronautics and Astronautics in 1961. I have also completed 18 semester hours toward a Ph.D. in Solid Mechanics at Johns Hopkins University.
3. I have held a variety of positions in various disciplines including Engineering, Software Engineering, Software Engineering Management, and Research. I have developed power spectrum analysis techniques and developed and managed real-time software systems for DoD applications and have provided consultation services to

the Lockheed Martin Corporation in software estimation, metrics and risk management. I have worked over 40 years in the aerospace and computer industry, including positions with the TRW Systems, Fairchild Industries, the Sperry Corporation, the Unisys Defense Systems Company (Paramax), the LORAL Federal Systems Company, and the Lockheed Martin Corporation. All positions required the use of digital computers.

4. At retirement, I provided consultation and training services to facilitate the application of software and systems practices and technology at Lockheed Martin companies. I provided guidance to Lockheed Martin projects in the areas of software estimation, risk management, metrics and software process improvement.

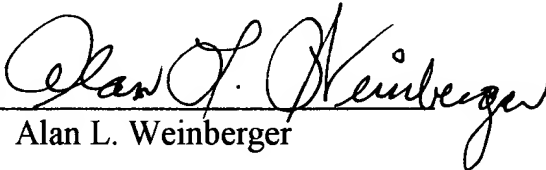
5. I have received awards in various disciplines, and I have published articles and conducted technology presentations in software development and other computer-related technologies.

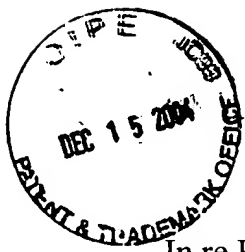
6. I have reviewed and am familiar with the subject patent application. From the specification, it is apparent that the described steps and processes must be carried out by a computer to achieve the accuracy required by the disclosed method in a timely and useful manner. That is, the specification inherently provides support for the notion that a computer is used to carry out the described process and that the "structure" described in the specification references a computer. In the Summary of the Invention, pages 5-9, the power spectral density (PSD, page 7) calculations must be performed with the accuracy provided by a digital computer on a daily basis to ensure that the most up-to-date data are being used for real-time decision-making for investments. Computations of the PSD that are made by any other method are either error-prone or not made in a timely manner for

use in decision-making, or both. Indeed, I estimate that it would take approximately 1600 hours or more to manually (or otherwise without a computer) perform the more than 600,000 calculations required for the evaluation of ten candidate investments (stocks, bonds, or mutual funds) for a single day's trade. In addition, the calculation of the performance control boundaries (page 8) and the calculation of the probability of a successful investment also must be performed by a digital computer, for the reasons cited above. Graphical presentations of these computer calculations are shown in Figures 1 and 3 of the invention disclosure.

7. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under the laws of the United States, Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patents issuing thereon.

Date DECEMBER 8, 2004

By 
Alan L. Weinberger



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Sir:

DECLARATION UNDER 37 C.F.R. §1.132

I, William G. Niessen, do hereby declare and state:

1. I received a Bachelor of Science Degree from the University of Maryland in Electrical Engineering in 1977, and I received Juris Doctor Degree from the University of Baltimore in 1993.

2. I was admitted to practice before the U.S. Patent and Trademark Office as a registered patent agent in 1979, and I worked as a U.S. Patent Examiner between 1981 and 1987 examining patent applications in Electronic Computers and Digital Data Processing Systems (Group 2300).

3. I have held various positions in computer- and engineering-related disciplines with a focus on patent prosecution. I am currently a patent agent at Nixon & Vanderhye PC.

4. I have reviewed and am familiar with the subject patent application. From the specification, it is apparent that the described steps and processes must be carried out by a computer to achieve the accuracy required by the disclosed method in a timely and useful manner. That is, the specification inherently provides support for the notion that a computer is used to carry out the described process and that the "structure" described in the specification references a computer.

For example, the specification calls for determining a "power spectral density" (PSD) of respective mutual funds according to fund cumulative growth (G) and fund stability (S) by multiplying the square of the fund cumulative growth by the fund stability, according to the relation: $PSD = G^2 \cdot S$. (See patent specification at pages 7 and 12.) In this relation, the fund stability (S) is determined according to the relation: $S = Avg - StdDev$, where Avg is the average annual growth over a predetermined period, and StdDev is one standard deviation of the annual growth over the predetermined period (specification at pages 7-8). "In the context of a mutual fund, stability equals the average annual growth of the fund over a set period of time, *preferably at least a ten year period*, minus a standard deviation of that growth over the same period." (See patent specification at pages 10-11, emphasis added). Determining a standard deviation of a even a small set of values requires numerous computations.¹ Performing such computations to determine the standard deviation of a set of more than only a few values,

¹ E.g., to calculate the standard deviation of a particular set of values it is first necessary to calculate that set's variance. Numerically, the standard deviation is the square root of the variance. To calculate the variance of the set of values, it is necessary to first calculate the mean of the values, then measure the amount that each value deviates from the mean and then square that deviation (by multiplying it by itself).

without the aid of a computer or at least a calculator, would be tedious and time consuming.

In the context of the subject patent application, it would certainly not be practical or even feasible to attempt to perform the many computations required to determine the Power Spectral Density for numerous mutual funds, each over a ten year or greater period, without the aid of a computer or at least some automated computing device. To attempt to do so would be prohibitively time consuming for any practical application of the invention and, in addition, would make the computations prone to human error.

In addition, the patent specification also calls for performing a statistical analysis of the history of various investments that is based on tracking investments over two different time scales: a "global" track where investments are tracked annually preferably over a ten years or greater period and a "current" track where investments are tracked daily over a two-hundred day period to provide a 200 day "moving" average. "In each case [for global tracking], the average of the annual performance and its standard deviation is calculated to establish upper and lower control limits." (See patent specification at pages 15-16.) For current tracking, the patent specification calls for keeping a record of the peak positive and negative dispersions from the moving average. "These peaks are then averaged and a standard deviation is computed. Again, a number of standard deviations (sigma) are selected from which to construct control limits around the 200 day moving average." (See specification at page 16.) It would certainly not be practical or even feasible to attempt to perform the many computations required to

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perform the global and current tracking statistical analysis, in addition to keeping a record of peak positive and negative dispersions, computing standard deviations for a 200-day moving average of numerous investments, and ranking investments by PSD, as called for in the patent specification, without the aid or use of a computer.

7. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under the laws of the United States, Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patents issuing thereon.

Date 12/13/04

By 
William G. Niessen